

REMARKS

Reconsideration of the instant application is respectfully requested. The present amendment is submitted in conjunction with a Request for Continued Examination (RCE) and is responsive to the Final Office Action of June 11, 2008, in which claims 1, 2, 4 and 5 are presently pending. Of those, claims 1, 2, 4 and 5 have now been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 7,155,425 to Nykanen, in view of U.S. Patent 6,985,939 to Fletcher, et al., and further in view of U.S. Patent 7,155,425 to Zeng, et al. For the following reasons, however, it is respectfully submitted that the application is now in condition for allowance.

In Applicants' previous response of March 12, 2008, the following arguments were presented:

First, the claimed method enhances the search capabilities of Web services registries such as UDDI by enhancing an existing mechanism in the UDDI registry to publish matching engines that have different search capabilities into the UDDI registry. While the mechanism to publish any generic Web service is already part of a conventional UDDI registry, the idea of publishing a matching engine is novel. As opposed to other types of "regular" Web services that are published in a registry and are meant to be found, a matching engine Web service is itself used to find other services. This distinction is significant as it improves the quality of Web services to be found.

Further, the claimed mechanism that enables publishing of matching services into UDDI registry also enables a way for the UDDI registry to use the services of an external search engine (published as a Web service) to find services for a given request. Typically, a UDDI registry uses its own hard-wired search engine to find services. However, this aspect of a UDDI registry is externalized so as to provide a mechanism wherein the UDDI

does not have to use a hard-wired search engine, but instead can dynamically select a suitable search engine based on the type of request.

As a result, such external matching engines can do a better job than a simple “keyword” based hard-wired search engine since semantic matching engines can be published as external matching engines in the UDDI registry. A semantic matching engine uses semantic cues on the request and targets Web services to determine the “goodness” of the match. The semantic matching engines can use various techniques to conduct the matching e.g., text matching techniques, or ontological reasoning approaches. They can also use a number of information sources to do a better job of matching than a key word search. These information sources could include language dictionaries (e.g., thesaurus) that contain domain-independent terms or domain specific dictionaries (the domain specific dictionaries are also known as ontologies when they are specified in formal languages which enable machine interpretation).

However, in the present final Office Action, the Examiner has now cited the Zang reference for its purported teaching of an external, published search engine independent of a search engine internal to the UDDI registry, that is capable of comparing the service requirements and service capabilities through semantic cues in the UDDI request. Applicants have carefully reviewed the teachings of Zang (and in particular paragraph 26 of the Zang reference as cited by the Examiner) and respectfully traverse the §103 rejections of claims 1, 2, 4 and 5 for the reason that any supposed “external matching engine” outside of UDDI itself in Zang is not “published” within the meaning of the claims and, moreover, does not compare the service requirements and service capabilities through semantic cues in the UDDI request.

Zang is directed toward providing an automated mechanism to generate search scripts dynamically to find appropriate Web services (paragraph 0021), providing a seamless integration mechanism for template based business process flow composition, providing selection mechanisms to automatically construct an optimal business process

using available Web services (paragraph 0022), and providing efficient tooling to support dynamic adaptation of Web services flow to different modeling languages (paragraph 0023).

Zang accomplishes this through a Web Service Outsourcing Manager (WSOM) that enables customers to dynamically configure new business processes based on incoming requirements and solution expertise captured by the system (paragraph 0025). To capture the business requirements, Zang introduces a Business Process Outsourcing Language (BPOL) that provides a format in which a plurality of requirements including process execution flow rules, preferences, business rules and event-action mappings that can be captured to dynamically construct search script for an advanced Web services discovery engine to find Web services from both UDDI registries and Web Services Inspection Language (WSIL) documents (paragraph 26).

While the Examiner does not specifically identify what mechanism described in paragraph 0026 of Zang purportedly teaches the claimed “selecting from a plurality of external matching services an external matching service which, itself, comprises an external, published search engine independent of a search engine internal to the UDDI registry, the published search engine capable of comparing the service requirements and service capabilities through semantic cues in the UDDI request...” the Applicants presume the Examiner refers to the BPOL as meeting the claim element.

Because Zang teaches that BPOL is essentially used to generate a search script for searching the UDDI, it follows that BPOL is not a published external search engine that is capable of comparing service requirements and capabilities through semantic cues in the UDDI request itself. Stated another way, WSOM/BPOL does not utilize semantic cues in the UDDI request for searching; rather, BPOL’s search format is already established upon searching the UDDI and other WSIL documents.

Therefore, because the combination of the teachings of the cited references of record fail to disclose each and every element of the claims, the Applicants respectfully submit that the §103 rejections have been addressed and overcome.

Independent method claim 1 has been amended to more particularly point out that the claimed external matching service, itself, comprises an external, published search engine independent of a search engine internal to the UDDI registry, the published search engine capable of comparing the service requirements and service capabilities through semantic cues in the UDDI request. Support for the amendment is found at least in page 27, line 10 - page 30, line 8 of the specification, as well as in Figure 9 of the drawings.

Finally, claim 29 is newly added in order to more particularly point out that the UDDI registry itself is further capable of utilizing the external, published search engine in lieu of the search engine internal to the UDDI registry. Support for this amendment is found at least in page 17, lines 11-17 and page 18, line 26 through page 19, line 7 of the specification.

Notwithstanding the arguments above, claim 29 is also patentable over the art of record because even if the WSOM/BPOL could be considered an external, published search engine independent of a search engine internal to the UDDI registry capable of comparing the service requirements and service capabilities through semantic cues in the UDDI request, Zang still does not teach that the UDDI may utilize the WSOM/BPOL search engine in lieu of its own internal search engine. As indicated above, this claimed feature enhances an existing mechanism in the UDDI registry to publish matching engines that have different search capabilities into the UDDI registry, as well as allowing the UDDI itself to use those search capabilities instead of its own limited search mechanism.

For the above stated reasons, it is respectfully submitted that the present application is now in condition for allowance. No new matter has been entered. If any fees are due with respect to this Amendment, please charge them to Deposit Account No. 50-0510 maintained by Applicants' assignee.

Respectfully submitted,
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